“For example, on the upper incisor teeth, there is a shoveling shape to it. The tongue side of the teeth have a shovel shape to them, with a little groove, and that groove in the shoveling shape is an area where bacteria can congregate.”

Halliday believes the ultimate cause of the problem of oral health in these populations may be “a combination of factors. It may be a bacteriologic factor causing the cavities, and also the shapes of the teeth of the people that we serve at the Indian Health Service.”

Native Americans also tend to have higher rates of diabetes and obesity, Halliday said, which also may contribute to greater rates of oral disease.

“Definitely there’s some relation there,” he said. “In the last 10 years there’s been a lot of research not only in the Indian Health Service but in the general dental community about the correlation between oral health and systemic health.

“There are very clear ties between oral health and systemic health in individuals. For example, individuals who have diabetes tend to have higher rates of periodontal disease. When they have higher rates of periodontal disease, those individuals are more susceptible to losing their teeth.

“So there is definitely a tie between diabetes and oral conditions. There’s also been quite a bit of research showing that there’s a direct correlation between oral health and cardiovascular disease, and some research showing a correlation between oral health and pulmonary disease as well.”

He said he has “no doubt in my mind” that there’s a correlation between the oral health and the overall health among American Indians and Alaska Natives.

“Diabetes and obesity tend to be related, and diabetes, overweight and oral disease tends to be related as well,” he said.

Currently there are a number of government programs designed to both determine the cause of the increase in dental caries among Native Americans, and to alleviate oral health problems in that population, Halliday said.

“There are pilot programs going on where we’re doing some very innovative projects,” he said. “One of which is, we’re trying to develop protocols by which we can lower the strep mutans rate or that bacterial rate that causes cavities. We have these pilot programs where we’re going into these communities and trying innovative techniques to help lower the bacterial rates in these communities and thus, hopefully, lower the rate of dental caries.”

Access to care is, of course, a large contributing factor in the crisis of oral health in Native American communities. Most U.S. reservations are located in geographically isolated areas, where few dental professionals choose to locate.

“Because oral disease rates are very high, there is a great demand on the clinics, which limits access to the overall population,” Halliday said. “We have challenges in recruiting health care professionals to work in rural, isolated areas.”

The HIS markets its program extensively to dental students and dental schools and, Halliday said, “we do our best to talk about the need in Indian communities as well as — in my opinion — the positive aspects of living in remote, rural communities and delivering care to individuals that greatly appreciate the services we provide.”

Halliday encouraged dental professionals and students to visit dental health pages of the IHS Web site, www.dentist.ihs.gov, to find out how they can help.

“We have a volunteer program for dentists and dental students,” he said “For dentists and dental students who are able to, we would definitively like to talk to them about the possibility of volunteering their services.

“We have a volunteer program for dentists and dental students who are able to, we would definitively like to talk to them about the possibility of volunteering their services.

“Native American/Alaska Native communities have been very receptive to dentists who are willing to come out and volunteer their services.

“That’s the way dentists, as well as dental students, can help us the most.”

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